SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

In sports and games, performance of players is judged by competition results. Apart from competition, the assessment of a player in any sports discipline can be done either by subjective or objective means. Generally the subjective assessment is done by the experts, which has certain limitations. The objective assessment can be done by the skill tests of the relevant sports discipline. Sports skill tests are designed to measure the basic skills used in the playing of a specific sport. The nature of the game should be analyzed in steps in order to determine the skills that are to be measured. Because of the wide range of skills in most sports, a selection of the most important skill is invariably necessary. The skill tests batteries have been used in physical education and sport to assess the skills of the players. The degree of perfection of sport skills obviously varies significantly with the level and sex of the players.

High level performance in any game depends upon the mastery of the fundamental skills. Norms are necessary if the test scores are to be adequately interpreted. There are several types and it depends on the purpose of the test and characteristics of the group to be tested as to which type is selected.

Moreover recent developments in Field Hockey, such as the playing surface, new stick material, and rolling substitution rule, have increased the number of technical demands made on Field Hockey players at all levels. Due to the modern demands of the game, there is a need of highly reliable and valid test for Field Hockey. The skill tests constructed by various experts in the field of Hockey are outdated and day by day the nature of the game changes its structure. Coaches, trainers and players are continually searching for effective methods of identifying and developing those characteristics in a player that may enhance performance. Several earlier studies of skill test batteries were examined and found that the studies are having limited scope and ignored the contribution of fundamental skills. Those studies never attempted to include the variables as purely contributed to the performance.
The batteries of tests for measuring skills in Field Hockey are very few. More over very limited study has been found so far in Field Hockey. The investigator being a Hockey player, qualified coach and umpire is keen in constructing the skill tests in almost all the vital skills in Hockey. Lack of test in certain skills in Field Hockey motivated the investigator to take up this study. Therefore, the present study evolved a new approach to construct a skill test battery for the Field Hockey players. The purpose of the study was to construct a new skill test battery and to develop standard norms for Field Hockey players.

After extensive discussions and critical analysis a set of 21 test items were constructed and conducted a pilot study with 24 male Field Hockey players from Banaras Hindu University age ranged between 17 and 24 years. In the consultation with the experts those who were present at the pilot study, seven test items were finalized by collected data was correlated with the playing ability score. The selected skills were as follows,

1. Zig-zag Dribbling (30 Second)
2. Forehand Rolling
3. Straight Push
4. Straight Hit
5. Slap
6. Flick
7. Receiving

The construction of a Field Hockey skill test items was based on the administration of seven skill test items to a sample of three hundred male college level Field Hockey players excluding goal keepers were randomly selected from different universities, colleges and academy of field hockey run in different States of India their age ranged between 17 and 24 years.

The general hockey playing ability of the subjects was assessed by a panel of three experts who were technically qualified in Hockey. All the experts were asked to
give marks to the subject from a maximum of fifty points. The evaluation was done by
the expert through observing the performance of the subject in the real game situations.

The data pertaining to the entire seven test item were subjected to the Descriptive
Analysis to understand performance status of 300 subjects on each test.

The mean and standard deviation of Dribbling, Rolling, Push, Hit Slap, Flick,
Receiving, Playing Ability of Hockey Players (Dribbling 32.47±4.98, Rolling 11.01±
1.84, Push 5.85±1.00), Hit 6.09±1.12, Slap. 6.08±1.10, Flick 6.21±1.18, Receiving
6.21±1.15, Playing Ability 33.40±4.71

The scientific authenticity of the test items were established by computing
reliability, objectivity and validity.

The reliability of each test items was established using test - retest method. For
this purpose consecutively two tests were conducted under similar conditions by
Research Scholar on 40 Hockey players. The finding pertaining to Test Retest Reliability
Coefficient of 30 Second Zig-zag Dribbling 0.91, Fore Hand Rolling 0.82, Straight Push
0.70, Straight Hit 0.76, Slap Shot 0.74, Flick 0.80, Receiving 0.77, these value indicated
that the hockey skill test items were reliable for establishing reliability of the test.

The objectivity of each test items was established by testing the subject on each
test item of field hockey playing ability test on two days with an interval of one day in
between as it was done in the case of establishing objectivity. At the first intense the test
was administered by research scholar himself and after one day interval the test was
repeated by other expert. The finding pertaining to Test Retest objectivity Coefficient of
30 Second Zig-zag Dribbling 0.95, Fore Hand Rolling 0.81, Straight Push 0.96, Straight
Hit 0.84, Slap Shot 0.93, Flick 0.91, Receiving 0.90, these value indicated that the
hockey skill test items were objective for establishing objectivity of the test.

For establishing validity, the raw score of each test items were converted into
standard scores (z-scores) the standard scores for each subject for all the seven test items
were added to obtain a composite score. The composite scores obtained on field hockey
skill test items were correlated with the hockey playing ability scores of the subjects
rated by a panel of hockey experts. The validity coefficient obtained was 0.86 the
validity coefficient of each test item were also computed by correlating the raw score of each test item were also computed by correlating the raw scores of each item with the rating of three hockey experts. The finding pertaining to validity of 30 Second Zig-zag Dribbling 0.81, Fore Hand Rolling 0.81, Straight Push 0.72, Straight Hit 0.77, Slap Shot 0.76, Flick 0.58, Receiving 0.63, these value indicated that the hockey skill test items were valid for establishing validity of the test.

Finally, Norms of the test items were developed by using percentile and 6 sigma scales from collected data. The score is further classified in to four grades i.e. Excellent, Good, Satisfactory and Poor. In this grading scale for different categories of grading 3sigma below the mean and 3sigma above the mean were considered. Based on six sigma criteria grading scale were developed for the different test items which were presented in table 13.

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>30 Sec. Zig-Zag Dribbling</th>
<th>Fore Hand Rolling</th>
<th>Straight Push</th>
<th>Straight Hit</th>
<th>Slap Shot</th>
<th>Flick</th>
<th>Receiving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>42 – above</td>
<td>7.80- below</td>
<td>8-above</td>
<td>8-above</td>
<td>8-above</td>
<td>8-above</td>
<td>8-above</td>
</tr>
<tr>
<td>Good</td>
<td>32 - 41</td>
<td>7.81-10.90</td>
<td>6 -7</td>
<td>6 -7</td>
<td>6 -7</td>
<td>6 -7</td>
<td>6 -7</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>22-31</td>
<td>10.91-13.89</td>
<td>4 -5</td>
<td>4 -5</td>
<td>4 -5</td>
<td>4 -5</td>
<td>4 -5</td>
</tr>
<tr>
<td>Poor</td>
<td>21 – below</td>
<td>13.90-above</td>
<td>3- below</td>
<td>3- below</td>
<td>3- below</td>
<td>3- below</td>
<td>3 - below</td>
</tr>
</tbody>
</table>
Conclusions

With the limitation of the present study the following conclusions may be drawn:

1. The hockey skill test constructed meets the criteria of scientific authenticity i.e. tests items are reliable, objective and valid.

2. There is a significant correlation between the 30 second Zig Zag dribbling test and playing ability rated by the panel of three experts.

3. There is a significant correlation between the fore hand rolling test and playing ability rated by the panel of three experts.

4. There is a significant correlation between the straight push test and playing ability rated by the panel of three experts.

5. There is a significant correlation between the straight hit test and playing ability rated by the panel of three experts.

6. There is a significant correlation between the slap shot test and playing ability rated by the panel of three experts.

7. There is a significant correlation between the flick test and playing ability rated by the panel of three experts.

8. There is a significant correlation between the receiving test and playing ability rated by the panel of three experts.

9. Norms derived by six sigma scale and percentile may be used to assess the playing ability of field hockey players.

10. All the test items as skill test battery contributed significantly in explaining the variance in the playing ability of the college level players.
Recommendations

1. The skill test items constructed may be used by sports hostels, colleges, universities and department of physical education for selecting potential hockey players and also for evaluating the hockey performance as an essential part of activity instructional programme.

2. The norms developed in this study will be help to the player to understand where he stands in terms of scores.

3. The different Hockey Skill tests items are highly recommended for use to assess or evaluate hockey playing ability of university level hockey players.

4. The similar study may be undertaken with Field Hockey players of different levels such as school level, District, National and International levels.

5. Similar study may be conducted on women Field Hockey players and also for other games.

6. It is also recommended as Skill Related Test items Course were in the test was developed as a course within which skill based testing items are included similar experiment can be done with team sports namely soccer, volleyball, basketball etc.